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THE ROLE OF FIRMS AND ENTREPRENEURSHIP ON LOCAL DEVELOPMENT

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Abstract

The present paper considers and analyzes the role of management and entrepreneurship on the firm and region sustainability. This relation was explored in terms of managers' behaviour related to three aspects of sustainable development, namely, economic, social and environmental.

Through a questionnaire survey of 251 micro, small and medium firms in *Vale do Sousa* region located in the Northern Portugal, it was discovered that, contrary to what most of literature presents, managers are putting in first place the environmental aspect of sustainability, followed by the social aspect, and the economic as the last one. These results lead to a characterization of firms as being sustainable, but with a risk-averse and non innovative behaviour on the part of the firms' management.

JEL Classification: Q24, Q57

Key words: small firms, entrepreneurship, sustainability

1. INTRODUCTION - THEORETICAL OVERVIEW

The role played by firms nowadays on the economy is undoubtedly of great importance. The present situation that the world economy is facing is also showing the importance of firms. Governments too are making efforts to help them due to their important role in economic and social development. Among firms there is a category that deserves special attention: the micro and small firms. Together they represent a large percentage of firms in every country.

Table 1. UE-25 Firm indicators by class, except financial sector (%)

	Firms	Employment	Turnover	Added Value
Micro (0-9)	91,5	29,8	19,4	20,5
Small (10-49)	7,3	20,8	19,3	19,1
Medium (50-249)	1,1	16,5	19,2	17,8
Large (250+)	0,2	32,9	41,9	42,7

Source: Schmiemann (2006) pp.2 & EUROSTAT (2006)

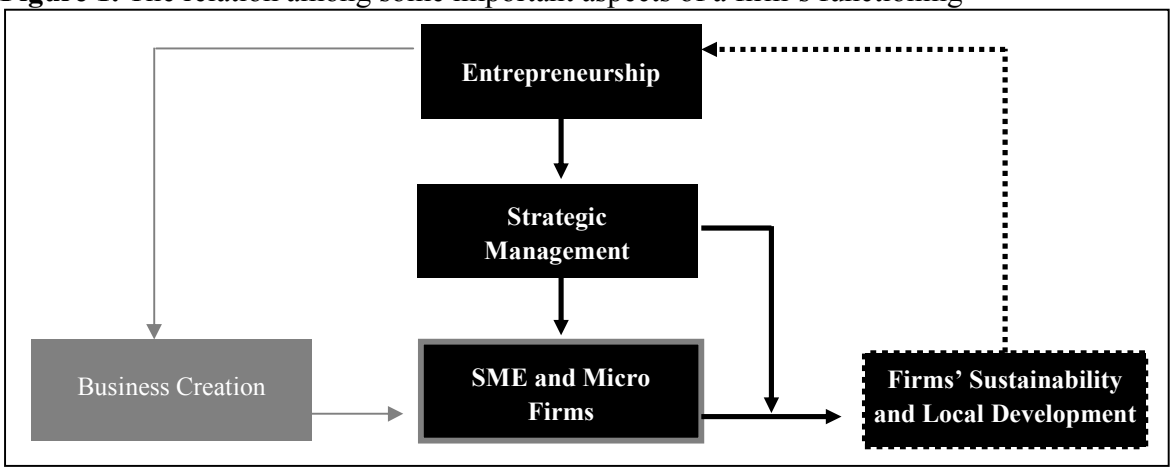
According to an IAPMEI (*Instituto de Apoio às Pequenas e Médias Empresas e à Inovação – SMEs and Innovation Support Institute*) study, [IAPMEI (2007)], micro and SMEs represent 99,6% of total firms in Portugal, 78,2% of total employment and 55,6% of turnover in the Portuguese economy. These figures show the importance of small firms in Portugal.

The main aim of this paper is to study and analyze the role of firms on local sustainability and the existing relations among the various aspects of a firm's functioning as presented in Figure 1 below. Entrepreneurship is undoubtedly related to the firm creation, but it should be present in the firms' management all the time, especially in the strategic areas. Today's large firms were, sometime in the

past, small ones. According to Magretta (2004), they became large by being the best small ones. The question is: What did they do in order to become the best ones? There is no one answer to this question; however one of the factors that certainly influenced it was their strategy. In order to reach a goal it is necessary to have a plan. Sailing according to the wind direction won't take us anywhere; but with a goal, the wind might be a powerful tool to reach the proposed goal. By being the best ones, or at least by achieving their goals, these firms, in particular small firms, will themselves be sustainable, and they might also work as an engine for local development.

In order to close this cycle, and following the idea of creative destruction presented by Schumpeter [Schumpeter (1934)], these firms are expected to contribute to economic growth and development. Nowadays, most governments, especially those from developed countries are concerned not only with economic development, but also with social and environmental development, or in other words, with sustainable development. And since this is a cycle, this sustainable development will contribute towards new and better firms fostering local entrepreneurship with new ideas and higher efficiency.

Figure 1. The relation among some important aspects of a firm's functioning



In order to analyze these relations a study was taken on a Portuguese region in the north of the country known as *Vale do Sousa*. This region is formed by a group of six municipalities with a large number of firms. Since the firms in this region, as all over the world, belong to different activities sectors, the distribution of firms among sectors was examined, and it was found that firms in construction and manufacturing business represented nearly 50% of total firms in this region.

Since it would be difficult to study the strategies of firms in all the sectors, namely, manufacturing, services, and retailing, the study was confined to manufacturing and construction sector businesses only. The attitude of managers/owners towards some sustainable development aspects was explored.

The paper first analyzes theoretical ideas about the relation between local sustainability and firms' entrepreneurship as presented in literature. The last section presents some final comments and considerations, and some suggestions for further research.

2. ENTREPRENEURSHIP AND STRATEGIC MANAGEMENT

The concept of entrepreneurship is nowadays frequently used, in academic, scientific, managerial and political fields. At the same time, it is a key concept in development discussions because it is through entrepreneurial actions that it is possible to create added value and to promote better economic and social conditions that will benefit both the individuals involved and the community as a whole. In order to foster local development many governments are trying to promote and support innovative actions from the existing firms and new firms creation.

The concept of entrepreneurship is related to firm creation, creativity, innovation, organization, cooperation, and among others, to firm management. In this last case, the most frequently used concept is 'intrapreneurship', a term that was first suggested by Pinchot (1985). Later, Carree, Stel, Thurik, & Wennekers (2000) defined entrepreneurship as firms' creation and intrapreneurship as new ideas and responsibilities implemented in the existing organizations. Both are assumed as essential for the economic activity.

The concept of intrapreneurship plays an important role in the establishment of networks [Greeve (1995); Minguzzi & Passaro, (2000)] and it is close to the concept of strategic management innovation [Bruyat & Julien (2000); Antoncic & Hisrich (2001)]. According to Jong & Marsili (2006) these relations are valid not only for large firms, but also for small ones.

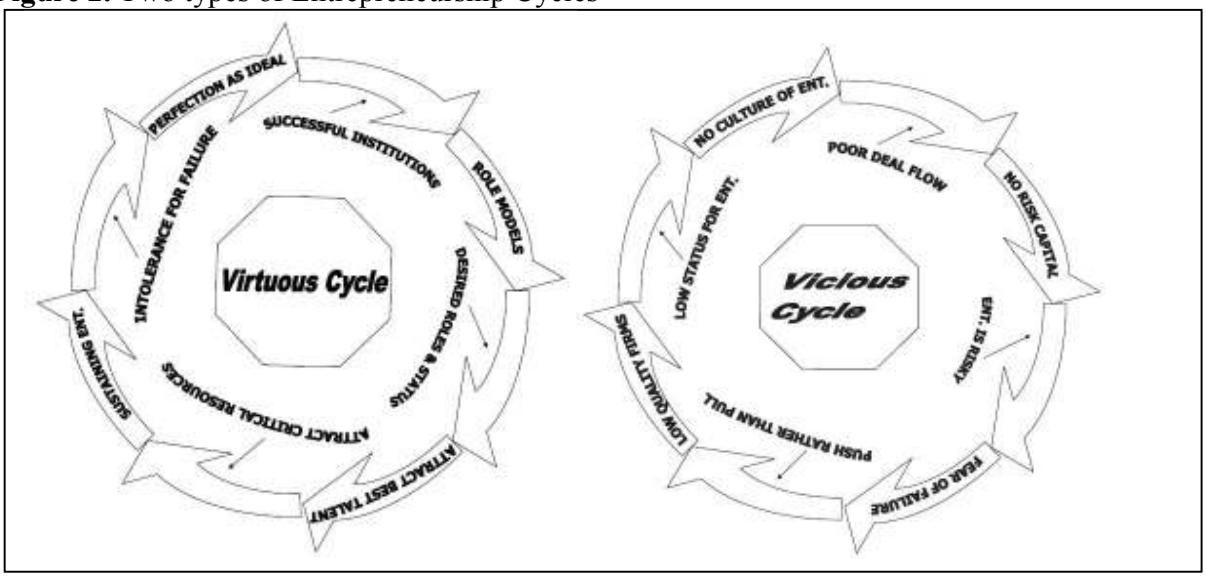
Based on the ideas presented by these authors it is possible to say that there is a close relation between entrepreneurship and firm management. In other words, it can be said that innovative strategic management is very similar to the concept of intrapreneurship, and it should be present in all firms regardless of their sizes. The concepts of entrepreneurship and strategic management are so close that, as Venkataraman & Sarasvathy (2001) refers to them, to study one of them disconnected from the other is like a representation of *Romeo and Juliette* with just one of them.

Bearing in mind the idea that entrepreneurship and strategic management are aspects that must be present, side by side, in firms' management, it is also important to note the relations between firms (creation and management), entrepreneurship and local development (or the territory). As Melo (2002) suggests, the capacity of a territory to become competitive relies on the dynamic behaviour of the firms based there. The lack of this ability or the lack of the entrepreneurial spirit is the background for most of problematic situations that some territories seem not to be able to overcome. Also Mezias & Kuperman (2000) and Lee & Peterson (2000) defend that entrepreneurship does not appear as an isolated action, but it comes from a community creating a social system that leads firms and entrepreneurs to succeed.

The existing relation between the region and the firms/entrepreneurs lead to another important concept: that is the embeddedness effect. This effect can be related both to the entrepreneurs [Jack & Anderson (2002)] and with the organizations [Dacin, Ventresca, & Beal (1999)]. But as per OECD (2000), this relation is composed of many factors, such as social, cultural, and political. If in one set of conditions contribute to an increase in entrepreneurship actions, another can act as restrictions for those actions. All the participants in this "network" must be working and aiming at the same goals.

As Venkataraman (2004) suggests, entrepreneurship in a region may occur in two different ways, or as two different cycles, as presented in Figure 2.

Figure 2. Two types of Entrepreneurship Cycles



Source: Venkataraman (2004)

"A region exists in a state of ''virtuous equilibrium'' when it has been conducting economic and cultural activities for long periods and has settled into a predictable and comfortable position. Such a state exists when patterns of activity have formed and evolved through historical and local contingencies and through ceaseless competition. In these cases, competition is not limited to the realm of economics: social and political competition also contributes to the establishment of these patterns. People in power drive out other people in power; while people who are well-connected drive out those people who are not so well-connected. Indeed, in these regions, equilibrium is defined as much by product–market competition as it is by social and political competition" Venkataraman (2004).

On the other hand *"...when developments based in old industries no longer valued occur, no role models exist in the imitating regions that lack the cultural mechanisms for adaptation. The role models are elsewhere, in other regions where these new models originated and are taking shape. When this exogenously driven change occurs, the previously workable virtuous cycle turns out to be a vicious cycle under which change cannot easily occur. The culture of Schumpeterian entrepreneurship, which involves trying ''new'' things, making ''bold bets'' is nonexisting. Rather, there is only a very narrow, sustaining, and weak approach to entrepreneurship. The typical reaction of economic and political leaders in such environments is one of diffidence and inertia. They might know that they have to choose a new economic model, but are uncertain as to what the next model should be or how to create it. This is when a region becomes trapped in a vicious cycle: great ideas and bold bets cannot and do not emerge"* Venkataraman (2004).

The differences presented on those cycles are a portrait of what happens in some regions and may explain why some are in a state of constant development and some others cannot leave the undeveloped status that are bearing for a long time.

The main idea presented in this section is that entrepreneurship, either on firm creation or management, cannot be disconnected from strategic management in order to plan for the short and long terms, but that the firms by themselves, even when following all the theoretical rules and keeping innovation and management together, need to be embedded in the region. Only in that way is it possible to exploit the synergies available from an interesting network that will bring better results for all participants.

3. SOME THEORETICAL CONCEPTS AND ITS RELATION WITH DEVELOPMENT

In order to fight poverty and the existing disequilibrium among regions, small and micro firms are frequently presented as useful tools. However, according to Cheshire & Malecki (2004), the way regional, and consequently local, growth occurs is a process not sufficiently understood. So in order to best understand this process, it is necessary to understand at least some concepts related to local development.

Starting with the concept of economic growth, Romer (2001) presents the idea that it occurs when someone uses some resources turning them into something valuable. At the same time, according to Islam, Munasinghe, & Clarke (2003) economic growth in many countries is seen as means to improve population's living standards and to eradicate poverty. But they also ask how it can be measured. Some may suggest the use of macroeconomic indicators such as GDP, some others like Apolinário (2005) describe it as a result of the human and technological capital, and the organization that manages both. The integration of these factors leads us to the concept of economic development.

The relations between growth and development are very close. For instance, as Silva & Silva (2002) present it, the models of economic growth use macroeconomic aggregates as variables, trying to find quantitative relations between inputs and outputs in the form of mathematical expressions or models. Some other models, such as *The Agropolitan* or *The Local Initiative Model*, as presented by Weaver (1988), related to territory or local development present SMEs and entrepreneurship as an important tool for development through job creation and natural resources management. Other tools involved in both models are related to economic, social and environmental aspects, which allow us to establish a relation with different aspects of sustainable development.

Sustainable development as presented above includes three dimensions, economic, social and environmental, and an interesting definition of the same can be presented as: "the satisfaction of present needs without compromising future needs". This means that economic growth is necessary, but social and environmental aspects must also be considered. Islam, Munasinghe, & Clarke (2003) present the idea that not only must development be sustainable but growth also needs sustainability. This means that not only economic indicators must be considered to analyze economic growth, but social and environmental aspects must also be taken into account.

Arvanitidis, Petrakos, & Pavleas (2007) identified some economic growth determinants, such as: (1) High quality of human capital; (2) High technology, innovation and R&D; (3) Stable political environment; (4) High degree of openness (networks, links), among others. Most of them can be easily connected with the entrepreneurial fabric, which supports the idea that economic growth, whether sustainable or not, is promoted by firms either at a micro or macroeconomic level.

Economic growth is also related with the concept of innovation, as Mccann (2006) presents. Innovation is the spark for regional economic growth that occurs in locations where firms (normally small) are based with a good labor force and specialized services. At the same time, as Vargas (2000) argues, micro firms have been seen for some time as an alternative to macroeconomic policies in order to fight poverty.

However the relation between economic growth or development and firms also presents some negative aspects. For instance the increase in the number of firms may create rivalry instead of cooperation [Visser (1999); Boari, Odorici, & Zamarian (2003); Narula, R. (2004)]. And even the concept of sustainable development is not understood in the same way by everyone. Giddings, Hopwood, & O'Brien (2002) argue that even with governments and some business sectors concerned about sustainability issues, the separation of the three different dimensions may be used to justify the focus in

one of these dimensions, usually the economic, as done by some other authors such as Korton (1996) or Monbiot (2000).
Nevertheless, it is consensual that macro-economic growth *per se* is not a solution to increase the population's life standards, neither to promote sustainability. Nowadays, firms are presented as a more efficient solution, in particular, micro and small, since they do not require large initial investments but support economic growth, creating jobs and supporting community. They can also play an important role at environmental levels, because of favourable benefit to cost that may result from their actions towards the environment.

4. FIRMS AND LOCAL DEVELOPMENT

In order to achieve economic development it is consensual that firms are an efficient, or at least, a widely acceptable solution. Vargas (2000) defends that United Nations bodies have been supporting the creation of micro firms as a mean to achieve economic and sustainable development. According to Craig, Jackson, & Thomson (2005), small firms are a kind of growth incubator, being the place where innovation occurs and new ideas become viable businesses.
In order to justify the existing gap among countries and regions on what concerns economic growth the Organization for Economic Co-operation and Development (OECD), [OECD (2003)] identifies factors, institutions and policies that may increase growth on the long-term. In that study basic factors identified for growth are: (1) Physical capital accumulation; (2) Human capital accumulation; and (3) Research & Development. It is interesting to notice, that all of them are related to firms.
Even though firms are considered as important players in the development game, they are not the only players. Local development may be supported by firms, but is also supported by local agents. It is common to find entrepreneurs that started a business in their region and this relation leads us back to the concept of embeddedness, which as we have seen in the previous section, can be defined as a set of intangible resources that result from close relations among different actors and from the knowledge that these entrepreneurs have with and from the region. These local entrepreneurs having economic goals are most likely available to put some efforts for achieving social and environmental goals also. Thus, it can be said that these agents are closest to the goals of sustainability, both for the firm and the region.
The importance given to small firms is not recent. Pecqueur (1989) suggested a new framework to analyze development putting the firms (SMEs) as central figures, kind of pivot elements in what concerns development agents or institutions. The relations established among all these participants will [as argued by authors like Ahern (1993); Narula (2004), Arend (2006), Acquaah (2007)] contribute to the establishment of networks at various levels, which, in turn, can contribute towards firms development and sustainability as well as for local development. More recently, some authors suggest alternative solutions in the form of management models aiming sustainability [Kerr (2006); Rocha, Searcy, & Karapetrovic (2007); Espinosa, Harnden, & Walker (2008)], and some others have tried to introduce the concept of sustainable entrepreneurship [Young & Tilley (2006)].

5. FIRMS AND LOCAL DEVELOPMENT IN THE REGION OF VALE DO SOUSA

In order to analyze some of these concepts through a practical study, firms belonging to construction and industry sectors located in the region of *Vale do Sousa* were chosen. The main findings presented in this section result from a questionnaire presented to 251 micro, small and medium-sized firms in the

said sectors and region. This is a sub region of NUTE III – Tâmega located on the Northern region of Portugal.

The *Vale do Sousa Urban Community* region where this study took place is composed of 6 municipalities (*Castelo de Paiva, Felgueiras, Lousada, Paços de Ferreira, Paredes, Penafiel*). According to INE (2007), there are 337.380 inhabitants with a relatively high percentage of young people in this region.

Economically, the primary sector was in the past the main activity, as is the case with most of the countries. Other activities such as manufacturing or services have presently been assuming a more important role. Nowadays the main industrial activities in this region are: shoes making, textiles, wood furniture and construction. In four of these municipalities, it is even possible to identify some industrial clusters as referred by Bessa (2004) and DHVMC (2004): *Felgueiras*: Shoes production; *Lousada*: Textile; *Paços de Ferreira* and *Paredes*: Wood furniture.

To describe the entrepreneurial fabric of this region, it was necessary to collect information from different institutions, since the available information from different sources was not consistent. Data from INE showed that in 2005, 34.049 firms belonging to all sectors were registered. However, information from CofaceMOPE presented a figure of 11.973 firms. Yet, according to the Work Ministry there were 10.231 firms. After analysing these differences and some conversations with local authorities, it was realized that there is no valid information about the exact number of firms. By consensus, it was presumed that a value of 12.000 firms should be very close to the reality.

Next, the sectors chosen initially for the study of firms were retailing, manufacturing, and construction sectors, considering that data regarding the firms as obtained from the abovesaid three institutions was more or less similar. Together these sectors represent around 75% of total firms in this region. However, analysing management strategies and entrepreneurial/innovative actions and behaviour towards sustainability using a single approach to all of them was considered to be difficult. In order to find more significant results it was finally decided to limit this study to industrial and construction businesses only. In order to consider the industrial sector as a whole, the study decided to analyse both the manufacturing and the mining and quarrying firms. This choice was done, since structurally there is no significant difference among these three sectors. By their nature they are much closer to each other than to firms in the retailing sector. By that reason, and since these two sectors (industrial and construction) represent around 50% of total firms, the study was undertaken on these sectors.

According to the data provided from the three institutions it was verified that the number of firms in industrial and construction sectors is around 5.000, which was then taken as the total size of the population for the purpose of this study.

On what regards the sizes of the firms, according to the data provided by CofaceMOPE, it was possible to say that this region does not present the usual distribution, where micro firms constitute an overwhelming percentage. In this region they are still the largest class of firms comprising 62% of the firms (for the whole of Portugal, this figure is around 80%) and small firms comprising 35%. Together they account for 97% of total firms which is within the class distribution found in Portugal. The remaining 3% are classified as medium-sized firms.

A questionnaire was formulated in order to collect information not only for the study framework presented in the present paper, but for a wider research on strategic entrepreneurship and sustainability. Since collecting information from the entire population (5000 firms) was not viable, It was decided to collect information from a valid sample. In order to calculate the sample size, Saunders, Lewis, & Thornhill (2003) present a formula that considers the variability of the factors to be studied, the confidence interval required, and the error margin. The formula is:

$n=p\%*q\%*[z/e\%]^2$
where:
n: minimum sample size required;
p%: proportion belonging to the specified category;
q%: proportion not belonging to the specified category;
z: Z value corresponding to the level of confidence required, and
e: margin of error required;

According to Saunders, since the population is less than 10.000 a smaller sample can be used without affecting the accuracy.
The adjusted formula is:
$n'=\{n/[1+(n/N)]\}$
Where:
n': adjusted minimum sample size;
n: the minimum sample size (as calculated above);
N: total population;

Considering that strategic entrepreneurship was the main factor for study, and considering a variability of 80%-20% (which was corroborated later with the results), the values obtained were: $n = 245{,}86$ and a $n' = 235{,}47$. Thus the minimum required sample size for the study was taken to be 236 firms. Out of the sample size of 236, firms were distributed by sectors, size classes, and municipalities in the same proportion as they occurred in the total population.
The questionnaire presented to firms, as referred already, included a larger number of questions than those presented in this paper in order to evaluate different aspects of firms' management practices. The questions considered for this paper were mainly related to aspects of firm's sustainability and sustainable development.
The questions included in the questionnaire aimed to get information about the firms' behaviour towards local development and sustainability. The questions were written in simple and clear language in order to get a spontaneous answer from the interviewee. Even though the questions presented were not using scientific terms, they were elaborated in order to be easily understood, and had a basis in scientific concepts derived from previous literature review. The answers were asked based on a Likert scale (1 to 5).
In order to analyze the aspects related to local development, a set of nine questions (or statements) related to the three main areas of sustainable development were presented to the interviewees. The first question about development was a general approach to the role of firms in local development. It asked the interviewees to classify on a Likert scale the statement: *"The firms play an important role in local development"*. On a possible classification from 1 to 5 the average answers reached a value of 4,38, which meant that the interviewees, most of whom were having managerial responsibilities in the firms, had an evident perception that firms are important agents in local development. It is interesting to notice that from all the answers the minimum value obtained was 2, which means that no one was in total disagreement with the importance of firms in local development.
The following questions were analysed in groups of variables, providing inferences for some latent variables, following the methodology proposed by Hill & Hill (2002). These latent variables were not directly observed but were rather inferred from other variables that were observed and directly measured. The values of the latent variables can be inferred from measurements of the observable variables. To analyze both the economic and social dimensions, two groups of three questions each

were presented; whereas to analyze the environmental dimension a group of two questions were presented.

The economic dimension was analyzed through the questions:

- Small firms are those who may have the largest contribution to local development;
- Firm profits must be reinvested in the firm;
- Firm profits must be reinvested in the region;

The responses to the first statement *"The firms play an important role in local development"* showed a significant agreement on the part of the interviewees with an average score of 4,38. However, from the small firms the responses to the same statement did not show a significant degree of acceptance since the average value for them was 3,63. Analyzing both results it is possible to say that managers/owners agree that firms play an important role in local development, but they change their opinions when it comes to the small firms. It means that they attribute to their larger incumbents the responsibility to act on local development.

The next questions were related to profit reinvestments either in the firm itself or in the region. The results obtained were similar, however there was an "egocentric" vision about reinvestment, since the average for firm reinvestment was 3,98 while the average for region reinvestment was 3,31. These results also showed that firm factors presented higher values (3,98) than those related to the role of small firms in region development. This might mean that managers were more concerned with the economic dimension.

By analyzing all the questions it was possible to have an idea about the behaviour of the firms towards the economic dimension as a whole, and the average result was of 3,64.

The social dimension was analyzed through the statements:

- Firm workers must be recruited from within the firm municipality or close to the municipality borders;
- All the firm works, even those subcontracted, are carried out by adults;
- Firm must support society through sponsorship of social and cultural activities on a regular basis;

The above statements covering the social dimension were related with employment, child labor and community support. From these statements, one that deserves special attention is the one related to child labor since the average result is 4,29. This value shows a social concern (which is mandatory by law also) from the employees which requires that work be carried out by adults only. Considering the restrictions existing, it was not possible to develop any other means to verify if this is effectively happening. So the analyzes will be based on the obtained results only. However, there exists a significant level of the young leaving the school to get into the labor market. This may suggest that in some cases child workers are employed by firms in under cover fashion and that this may be studied in further researches.

Considering the remaining statements, the one related to local employment presents an average of 3,74 which means that at social level, firms employ workers from the local community thus contributing to an increase in social life conditions. The statement related to support to community through sponsorship and other such actions also received positive value, but was less significant than the others factors, the average of the responses being 3,27. This allow us to conclude, that firms were concerned with child labor, and tried to promote local employment; however positive but relatively less priority was given to direct community support.

Analyzing all these statements related to the social dimension as one variable, the value obtained was 3,76. This result was higher than that obtained for the economic dimension. According to the literature on sustainable development this is not a normal result, since most of the authors defend that usually firms and even governments sometimes are putting more efforts on the economic dimension than on the social one.

The environmental dimension was obtained by analyzing responses from the firms to the statements:

- Firm knows and tries to reduce the impact caused on the environment (soil, air and water);
- If some environmental rules will not be respected by this firm, there is no impact on the environment;

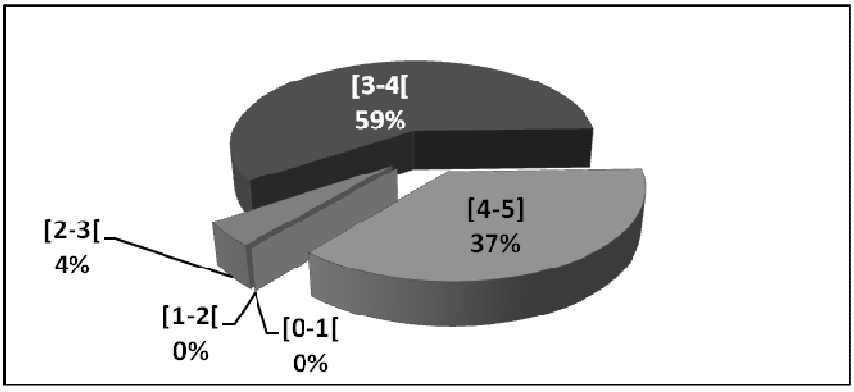
In order to evaluate responses to statements on this dimension as a whole , the second statement was analyzed together with the first in this group. For the statement related to the environmental impacts the average result was 4,1, while the results for the second statement had an average of 3,9. This may lead us to the discussion of the Tragedy of the Commons presented by Garret Hardin in 1968. The values obtained on these questions may be inflated because of the social concern. Even with a guarantee that the questionnaires are just for academic research some of the interviewees may have tried to give a socially acceptable answer. This is because if a firm is concerned about their impacts on the environment as shown from the results from the first statement, it was expected to get a higher average on what regards to environment rules (second statement).

Considering the result from both questions the average result was 4,03. That was the highest value considering the three dimensions studied. This demonstrates the importance that firm managers and owners are giving to the green dimension. The question that arises is: "Are the actions of these firms really in agreement with these results?" This question, not also opens new avenues for further research.

Trying to get some results about the aspect of sustainable development, it was assumed that the three dimensions have the same importance as regards to their respective contributions to sustainable development. Considering that all dimensions assume an equal importance the average result for all dimensions taken together give a value of 3,81. This means that on an average the firms in the region of *Vale do Sousa*, present a positive, let's say, proactive attitude towards sustainable development. Considering that firms' responses form classes of behaviour or approach, where the lower value means a weak approach to sustainable development and the higher a strong approach, we can see that most of firms, 96%, present a proactive attitude to sustainable development (

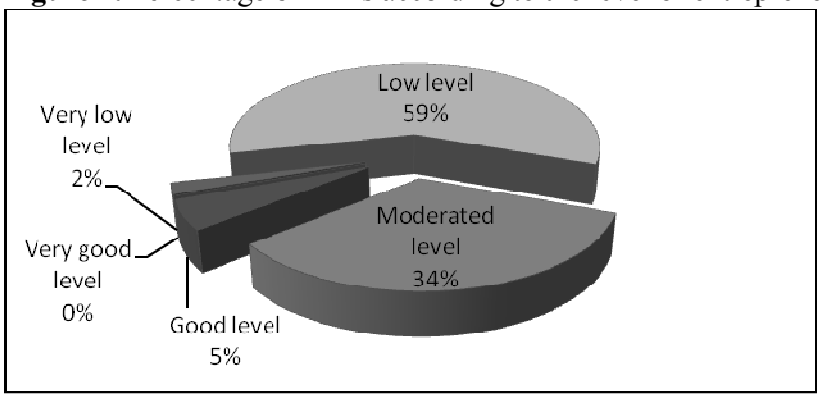
Figure 3).

Figure 3. **Percentage of Firms by Sustainability Classes**



The two lowest classes do not include any firm, which means that all firms present at least a moderate approach to sustainable development. These results allow us to conclude that firms on the region of *Vale do Sousa*, promote a development that can be classified as sustainable. Disagreeing with the idea presented by the literature review, the economic dimension received lesser attention from the firms' managers/owners than the environment dimension.
The questionnaire used also included some questions that attempted to evaluate the degree of entrepreneurship in the firms. It was expected that a relation between firms' entrepreneurship degree and their approach to sustainable development would be revealed. As we can see from Figure 4 most firms present a low level of entrepreneurship, and even with this results the same firms presented a proactive approach to sustainable development.

Figure 4. Percentage of firms according to the level of entrepreneurship

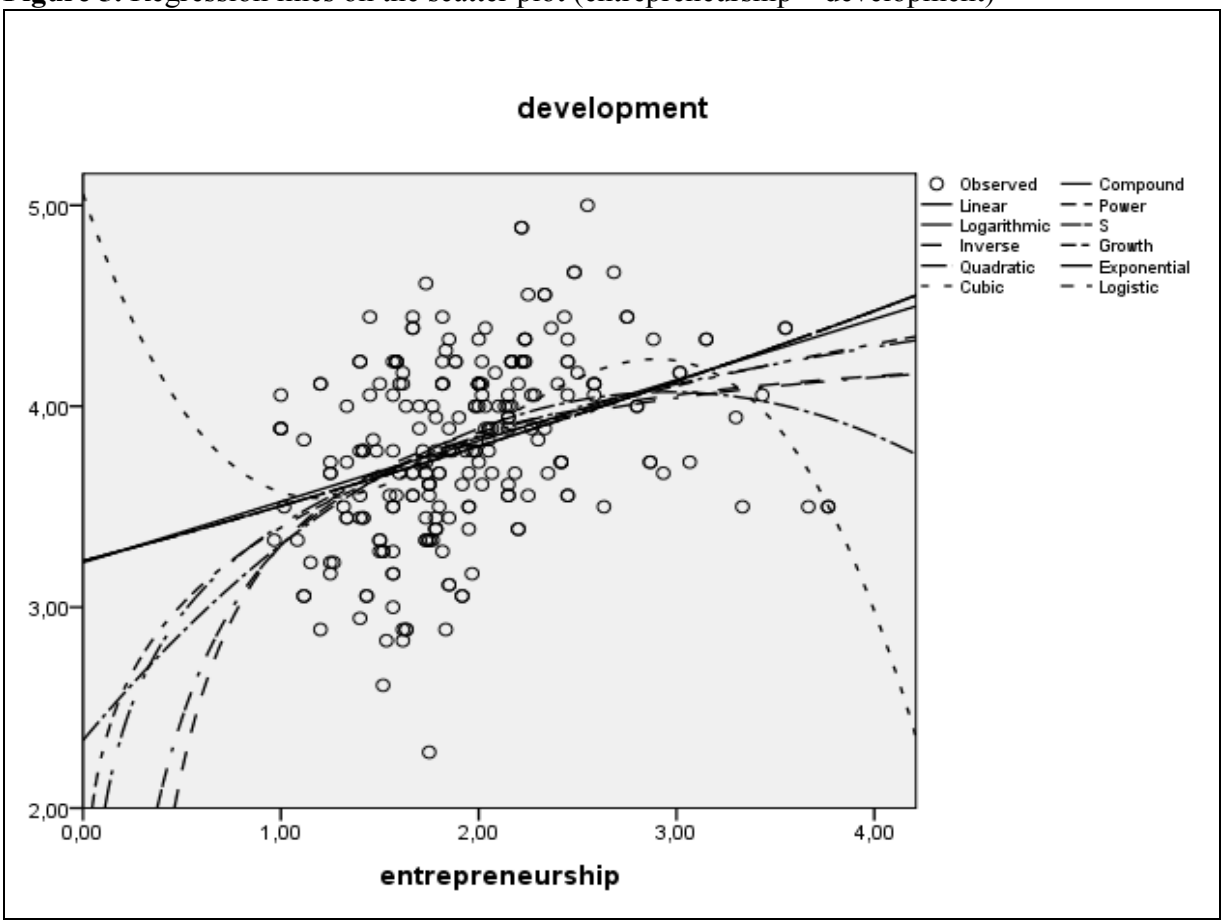


The average value for the degree of entrepreneurship for the sample of firms was found to be 1,94, while the measure of their approach to local sustainability had an average value of 3,81. However, attempts to fit different types of econometric relations to these two dimensions (through the statistical package SPSS) did not show any relation. First, a bivariate scatter plot with both variables (entrepreneurship and development) was carried out. The graph presented a dispersion that did not indicate any pattern or typical behaviour. After that, and since we were looking for a pattern, some regression models on these variables were attempted, but the results again pointed the same way as the previous analysis. Then the following regressions were attempted: Linear, Logarithmic, Inverse, Quadratic, Cubic, Compound, Power, S, Growth, Exponential and Logistic. The highest value obtained for R^2 was 20,9% with the Cubic Regression, however this too is an extremely low value. If this result were considered as acceptable we would get the following regression expression:

$y= -2{,}934x^3+1{,}732x^2-0{,}282x+5{,}057$
where y is the degree of firm's approach to sustainable development and x is the degree of firm's entrepreneurship.

Even being one of the most flexible regression models, with such a low R^2 it is worthless to analyze the regression parameters, since the conclusions would not be valid. As seen in Figure 5, none of the regression lines fit the scatter plot between entrepreneurship and development.

Figure 5. Regression lines on the scatter plot (entrepreneurship – development)



The conclusion that can be drawn from these results is that firms in the region of *Vale do Sousa*, do not present an entrepreneurial management but they still present a proactive approach to sustainable development. In this case it was not possible at all to talk about the concept of sustainable entrepreneurship.

6. CONCLUSION

Considering the average results, that is, the mean degree of agreement on the part of the firms' management/owners measured on a Likert scale of 1-5, with regard to the three dimensions of sustainable development – Economic: 3,64; Social: 3,76; Environmental: 4,03, some general comments may be made. According to the literature review some authors argue that the division of sustainable development concept into three dimensions is an excuse to focus the attention on the economic dimension leaving the two others for another plan. In the present study the results pointed in the opposite way, namely, firms in the region of *Vale do Sousa* were found to be more concerned with the environmental and social dimensions than with the economic dimension.

This may be what is really happening in this region, however, and since this shows an opposite tendency to what is suggested by the literature review, it requires some further research, both on these sectors and in some other sectors that exist in this region. In order to analyze each dimension there are some other variables that can be taken into account that were not considered in the present study. A further research suggestion is to build a battery of indicators for each dimension according to the literature review in order to analyze those variables on the region of *Vale do Sousa*, to accept or reject the results here presented. Among many other factors, the study of firms' stakeholders must also be taken into consideration in order to get a wholistic perspective.

Another important conclusion is that even though the managers/owners that were interviewed recognize the importance of firms' contribution to local development, they see this contribution as a responsibility of larger firms. When the question related to this aspect is presented to firms, taking the total sample there is a general agreement, but the agreement is not so strong when only small firms are taken.

On what regards relationship between entrepreneurship and sustainability. it was concluded that in the case of firms of *Vale do Sousa* studied there is no such relation. This may mean that in this region it was difficult to talk about sustainable entrepreneurship. On the contrary to what could be expected, the degree of entrepreneurship (strategic entrepreneurship) was found to be very low, while local degree of sustainability was found to be good. In this last aspect, it will be important to carry out further research in order to evaluate the degree of sustainability of this region.

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